

# INTERNATIONAL PATENT COOPERATION TREATY

From: INTERNATIONAL RESEARCH AUTHORITY

To:

Ref. form PCT/ISA/220

## PCT

WRITTEN NOTICE OF THE  
INTERNATIONAL  
RESEARCH AUTHORITY  
(Rule 43 through 1 PCT)

Date of  
dispatch  
(day/month/  
year) Ref. form PCT/ISA/210 (sheet  
2)

Reference number of the applicant or the  
legal representative  
Ref. form PCT/ISA/220

**FURTHER  
PROCEEDING**  
Ref. section 2 below

International reference number  
PCT/EP2004/013819

Date of international application  
(day/month/year) 04.12.2004

Date of priority (day/month/year) 20.12.2003

International patent classification (IPK) or national classification and IPK  
G02B6/38, G02B6/25

Applicant  
KRONE GMBH

### 1. This notice contains details regarding the following aspects:

- ☒ Field No. I Basis of the notice
- ☒ Field No. II Priority
- ☐ Field No. III No preparation of an opinion regarding the novelty, the innovative activity, and the commercial use
- ☒ Field No. IV Lack of uniformity of the invention
- ☒ Field No. V Justified determination in accordance with rule 43 through .1 (a)(i) with regard to the novelty, the innovative activity, and the commercial use; documents and explanations in support of that determination
- ☐ Field No. VI Specific listed documents
- ☐ Field No. VII Specific shortcomings of the international application
- ☒ Field No. VIII Specific remarks with regard to the international application

### 2. FURTHER PROCEEDING

If an application is filed for an international preliminary examination, this notice shall constitute the written notice of the authority ("IPEA") commissioned to perform the international preliminary examination; this shall not apply if the applicant selects an authority other than IPEA and the selected IPEA informs the international office in accordance with rule 66.1 through b) that written notices of this international research authority will not be accepted.

Referring to the details above, if this notice constitutes a written IPEA notice, the applicant is required to file a written response or – if applicable – modifications with IPEA within 3 months after the date of the dispatch of form PCT/ISA/220 or within 22 months after the date of priority, whichever is later.

For further options, please refer to form PCT/ISA/220.

### 3. Additional details are included in the notes to form PGT/ISA/220.

Name and mailing address of the international research authority

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Authorized public servant

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**Field No. 1 Basis of the notice**

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1. Regarding the language, the notice on the basis of the international application was written in the filing language of the application unless differing details are provided in this section.
  - o The notice has been prepared on the basis of a translation from the original language into the following language constituting the language of the translation filed for the purpose of the international research (in accordance with rules 12.3 and 23.1 b)).
2. Regarding the nucleotide and/or amino acid sequence revealed in the international application and required for the claimed invention, the notice was prepared on the following basis:
  - a. Type of the material
    - o Sequence protocol
    - o Table(s) in relation to the sequence protocol
  - b. Format of the material
    - o in a written format
    - o in an electronic format
  - c. Time of the filing
    - o Contained in the filed international application
    - o Filed together with the international application in an electronic format
    - o Subsequently filed with the authority for the purpose of the research
3. o If multiple versions or copies of a sequence protocol and/or an associated table have been filed, the required statements indicating that the information in the subsequently or additionally filed copies corresponds with and does not exceed the information in the application in the filed version have been provided.
4. Additional comments:

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**Field No. II Priority**

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1. x The following document has not yet been filed:
  - x Copy of the prior application, the priority of which has been claimed (rule 43.6 through 43.1 and 43.7(a)).
  - o Translation of the prior application, the priority of which has been claimed (rule 43.6 through 43.1 and 43.7(b)).

For that reason, it was impossible to verify the validity of the priority claim. Regardless, this notice was prepared under the assumption that the claimed priority date constitutes the definitive date.
2. o This notice has been prepared without taking the claimed priority into consideration as the priority claim turned out to be invalid (rules 43.6 through 43.1 and 43.1). Because of that, the date of the international application stated above is considered the definitive date for the purpose of this notice.
3. o The international research authority was unable to verify the validity of the priority claim as no copy of the prior application, the priority of which had been claimed, was available at the time of the research (rule 17.1). Regardless, this notice was prepared under the assumption that the claimed priority date constitutes the date relevant for the examination.
4. Additional comments:

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**Field No. IV Lack of uniformity in the invention**

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1. x After being requested to pay additional fees (form PCT/ISA/206), the applicant:
  - o paid additional fees.
  - o paid additional fees under protest.
  - x did not pay additional fees.
2. o The authority has determined that the uniformity requirement for the invention has not been fulfilled and has decided to request the payment of additional fees from the applicant.
3. Referring to rules 13.1, 13.2, and 13.3, the authority believes that the uniformity requirement for the invention
  - o has been fulfilled.
  - x has not been fulfilled for the following reasons:

**Ref. enclosed sheet**
4. For that reason, the notice has been prepared for the following parts of the international application:
  - o all parts
  - x the parts relating to the claims with the following numbers: 1-11, 14-18, 21-25

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**Field No. V Justified determination in accordance with rule 43 through .1(a)(i) with regard to the novelty, the innovative activity, and the commercial use; documents and explanations in support of this determination**

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**1. Determination**

Novelty	Yes: Claims	1-11
	No: Claims	14, 15, 17, 21-25
Innovative activity	Yes: Claims	11, 18
	No: Claims	1-10, 16
Commercial use	Yes: Claims	1-11, 14-18, 21-25
	No: Claims:	

**2. Documents and**

explanations: Ref. enclosed  
sheet

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**Field No. VIII Specific remarks regarding the international application**

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The following should be noted with regard to the clarity of the patent claims, the description, the drawings, and the question as to whether the claims are fully supported by the description:

Ref. enclosed sheet

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**State of the art**

The following documents referred to in the international research report are cited below:

- D1: EP-A-0 290 188 (E.I. DU PONT DE NEMOURS AND COMPANY) 9 November 1988 (1988-11-09)
- D2: DE 200 12 572 U1 (TKM TELEKOMMUNIKATION UND ELEKTRONIK GMBH) 11 January 2001 (2001-01-11)
- D3: US-B1 -6 217 233 (ESLAMBOLCHI HOSSEIN ET AL) 17 April 2001 (2001 -04-17)

**Regarding point IV**

**Lack of uniformity in the invention**

This authority has determined that the international application contains multiple inventions or groups of inventions that are not connected by a single general innovative idea (rule 13.1 PCT), in particular:

- I. Claims 1-11, 14-18, 21 -25:  
Connecting module for optical waveguides with fibre guidance structures and integrated fibre cutting tool, electro-optical connection module containing this connecting module
- II. Claims 12, 13, 19, 20:  
Connecting module for optical waveguides with immersion fluid depot, and electro-optical connection module containing this connecting module

**Reason:**

A comparison of the two present groups of claims to the specified documents (ref. point V below) has determined that the following characteristics contribute to the state of the art and may consequently be considered special technical characteristics in accordance with rule 13.2 PCT:

- Claim 18: cutting mechanism for optical waveguides in the top part of the fibre guidance structures

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- Claim 19: depot for immersion fluid

A comparison shows that the special technical characteristics of the first group of claims exhibit no similarities with regard to the special technical characteristics of the other group of claims. Accordingly, they are not "the same ... special technical characteristics" as required under rule 13.2 PCT.

Uniformity could still be the case if these inventions shared a technical connection that was expressed in one or a number of respective special technical characteristics due to the solution of an identified technical problem previously unsolved.

The following may be considered problems resolved by the special characteristics of the specified groups of claims:

- Claim 18: Cutting the fibre during the insertion procedure

- Claim 19: Improving the coupling efficiency by adapting the index of refraction

These problems differ from each other.

Accordingly, neither the special technical characteristics nor the resolved problems provide uniformity for the invention with regard to the detailed groups of claims as required under rule 13.2 PCT.

A similar objection can be derived for claims 11 and 12 that define the same characteristics as claims 18 and 19.

**Regarding point V**

**Justified determination with regard to the novelty, the innovative activity, and the commercial use; documents and explanations in support of this determination**

1. Referring to article 33(2) PCT, the present application does not meet the requirements of article 33(1) PCT because the subject of claims 14, 15, 17, 21-25 is not new.
- 1.1 D1 discloses a connecting module for optical waveguides, comprising a housing (10, 43) and fibre guidance structures (11, 12, 13), with at least two waveguides being able to be brought into contact in pairs in the housing (fig. 2, 3, 9; column 7, lines 3-19), wherein the connecting module manifests fitting agents for a base plate (43) (column 6, line 53 – column 7, line 2). Accordingly, the subject of the present claim 14 is not new with regard to

- D1.
- 1.2 In addition, D2 also discloses a connecting module for optical waveguides, entailing a housing (5, 6) and fibre guidance structures (22, 23), with at least two waveguides being able to be brought into contact in pairs in the housing (fig. 4; page 6, last paragraph; also refer to the comments to point VIII below), wherein the connecting module manifests fitting agents (10, 11) for a base plate (1) (page 5, first paragraph).  
Accordingly, the subject of the present claim 14 is not new with regard to D2.
- 1.3 D1 also discloses a method for the connection of two optical waveguides, by means of a connecting module with the characteristics in accordance with point 1.1 above, with  
the following procedural steps:  
a) Removal of the outer casing of the two optical waveguides  
b) Cutting of the two fibre ends which are to be connected with one another vertical to the axes and  
c) Insertion of the two fibre ends from different sides of a fibre guidance element until they are opposite one another and in contact  
(column 4, lines 34-41; fig. 2, 3, 9).  
Because of that, the subject of the present claim 24 is not new with regard to D1.
- 1.4 In addition, the separate claims 15, 17, 21-23, 25 are anticipated in D1 and D2, respectively:  
- housing made of plastic (claim 15): D1, column 2, line 14; D2, page 3, 3rd paragraph  
- V-shaped grooves in the lower part, top part suitable for clamping the inserted optical waveguides (claim 17): D1, fig. 4-9  
- means for the centring of fibre end sleeves (claim 21): D1, fig. 2  
- The connecting module as detailed in D1 can be used for optical plastic fibres and for glass fibres  
(claims 22, 23): D1, fig.2, also refer to the comments with regard to point VIII below.  
- immersion fluid (claim 25): D1, column 8, line 31
2. The present application also fails to meet the requirements of article 33(1)

PCT because the subject of claims 2-10, 16 is not based on an innovative activity in accordance with article 33(3) PCT.

- 2.1 D2 relates to a connection module for telecommunication and data technique, entailing a base plate (1), onto which connecting modules for optical waveguides or electrical cores can be arranged, with the connecting modules and the base plate manifesting fitting agents (3, 4, 10, 11) corresponding to one another and at least one connecting module for electrical cores being arranged on one base plate (fig. 3; page 6, second paragraph).

In addition, D2 specifies that the connecting modules are also suitable for accommodating optical waveguide connections (page 6, last paragraph).

A specialist obviously has to conclude that D2 requires the arrangement of connecting modules for electrical cores and connecting modules for optical waveguides on a base plate (1). This would directly realize the subject of the present claim 1.

Accordingly, the subject of the present claim 1 is not based on an innovative activity.

- 2.2 In addition, the characteristics of the separate claims 2-10, 16 cannot be considered innovative:

- Connecting modules detachable (claim 2): D2, fig. 1
- Connecting elements of the base plate (claim 3): D2, bores 2, fig. 1
- Base plate made of plastic (claim 4): obvious material selection
- Electrical connecting module as connection block with insulation displacement contacts (claims 5, 6): D2, page 5, 5th paragraph, "LSA-Plus terminal bar"
- Connecting module suitable for optical plastic fibres (claim 7): Ref. notes with regard to point VIII below.
- Fibre guidance structures for optical waveguides (claims 8-10): When realizing the connecting modules for optical waveguides, a specialist might implement the specifications of D1 (V-shaped fibre guidance structures with a top part suitable for clamping the optical waveguides) or alternatively D3 (guidance structures in the form of a transient bore) as warranted by the requirements.
- Guidance structures as transient bore (claim 16): D3, fig. 1



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3. None of the cited documents discloses a connecting module for optical waveguides with a lower part exhibiting V-shaped grooves and a top part containing an integrated cutting mechanism for optical waveguides.

Because of that, the subject of the present claims 11 and 18 is considered to be new and innovative.

**Regarding point VIII**

**Specific remarks regarding the international application**

Claim 1 does not clearly define that the optical waveguides are part of the claimed object. Accordingly, the separate claims utilizing characteristics of the optical waveguides for the purpose of defining characteristics of the connecting module must be considered unclear as a specialist is unable to determine which limitations for the connecting module are supposed to be defined in this manner. This objection relates to claims 7, 10, 17, 22, 23.